



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,424	01/12/2001	Manabu Sawasaki	1508.65123	2317
24978	7590	04/20/2004	EXAMINER	
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			NGUYEN, DUNG T	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 04/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/759,424

Applicant(s)

SAWASAKI ET AL.

Examiner

Dung Nguyen

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8,22,23,32-41,47,48 and 56-68 is/are pending in the application.
- 4a) Of the above claim(s) 54 and 55 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 32-41 is/are allowed.
- 6) ☒ Claim(s) 1,8,22,23,47,48,56,58 and 64 is/are rejected.
- 7) ☒ Claim(s) 57,59-63 and 65-68 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species A, claims 1 and 8, in Paper No. dated 01/20/2004 is acknowledged.

Specification

2. The disclosure is objected to because of the following informalities: Paragraph beginning on page 81, line 26, "263K" should be corrected as --263R--

Appropriate correction is required.

Claim Objections

3. Claim 62 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form: the limitation of claim 62 is cited in claim 61.
4. Claim 59 is objected to because of the following informalities: "0.4 gm" should be corrected as -0.4 μm -- . Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 8 and 22 stand rejected under 35 U.S.C. 102(e) as being anticipated by Lien et al., US Patent No. 6,493,050, as stated in the previous office action.

The above claims are anticipated by Lien et al. figures 1 and 16 which disclose a liquid crystal display (LCD) device comprising:

Art Unit: 2871

- . a pair of substrates (102, 104);
- . a liquid crystal layer (101);
- . a color filter (106);
- . a common electrode (122);
- . cell gap adjusting spacers (post spacer 108) formed on one of the pair of substrates (102), wherein adjacent edges of color filters are covered with the cell gap adjusting spacers;
- . domain defining projections (114) with same material (col. 5, last paragraph) and having a height lower than the spacers as claimed (figure 16).

7. Claims 22-23 and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Kishimoto et al., US Patent No. 6,281,960.

The above claims are anticipated by Kishimoto et al. figures 1 and 5B which discloses an LCD device comprising:

- . a pair of substrates (2, 32);
- . a liquid crystal layer (50);
- . first spacers (48) for deciding a cell gap;
- . second spacers (10) having a height lower than the first spacers as claimed.

wherein the first spacers laminating a plurality of films (BM, B, G, R) inherently having a different compressive displacement (i.e., different elasticity) as well as different from the second spacers compressive displacement.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Art Unit: 2871

9. Claims 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kishimoto et al., US Patent No. 6,281,960, in view of Miyazaki et al., US Patent No. 5,815,232.

Regarding the above claims, Kishimoto et al. discloses the claimed invention as described above except for columns formed of a plurality of color filters that are laminated in the liquid crystal injection port. Miyazaki et al. do disclose columns (island shape spacers) are positioned at the liquid crystal injection area (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ a column at a liquid crystal injection area as shown by Miyazaki et al. in order to keep an uniform gap at the liquid crystal injection area (see abstract).

Allowable Subject Matter

10. Claims 32-41 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

None of prior art disclose, singly or combined, an LCD device having a plurality of spacers interposed between two substrates, wherein the spacers are formed to satisfy all condition as set forth in claims 32-33. Furthermore, pixel regions include both first pixel regions, in which a final protection film is interposed between pixel electrodes and a transparent substrate, and second pixel regions, in which the final protection film is not interposed between the pixel electrodes and the transparent substrate as set forth in claims 34 and 38.

12. Claims 57, 59-63 and 65-68 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments filed 09/12/2003 have been fully considered but they are not persuasive:

Applicants' argument:

- a. Regarding claims 1 and 8, Lien does not disclose that the spacers cover adjacent edges of color filters.
- b. Regarding claim 22, Lien does not teach first and second spacers of differing respective heights and the lower spacer (ridges 114) does not function as spacers.
- c. Regarding claims 22-24, Kishimoto et al. does not disclose two different spacers of two differing respective heights.
- d. Regarding claims 22-24, Kishimoto walls 10 do not function as spacers.
- e. Regarding claims 47-48, neither Kishimoto nor Miyazaki et al. disclose two different gap holding spacers as claimed.

The Examiner's responses to Applicants' argument:

- a. Lien et al. clearly disclose the spacers (e.g., spacer 108) covering adjacent edges of color filters (i.e. edges of color filter 502 and 504) (see figure 16).
- b. In figure 16, Lien et al. disclose first spacer (108) and a second spacer (134). It clearly show first and second spacers of differing respective heights. Furthermore, a pretilt control structure (e.g. 134) has occupied a volume in a liquid crystal layer space, so as it would be acted as a spacer. In other words, the pretilt control structure and a spacer would have the same function as well.

Art Unit: 2871

- c. Kishimo et al. figure 1 disclose an LCD having a first spacer (48)(stacked of color filters B/G/R and BM) and a second spacer (10)(BM only)and such two spacers clearly have different respective heights.
- d. As stated in part b, Kishimoto walls 10 would be performed as a spacer as well.
- e. As stated in part c, Kishimoto et al. clearly disclose two different spacers of two differing respective heights. Therefore, the modification to Kishimoto et al. would render claims 47-48 at least obvious.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2871

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN
04/19/2004



Dung Nguyen
Primary Examiner
Art Unit 2871